CLAIMS

1. Leading edge mobile flap (16) for a main wing (4) of the wing system of an aircraft (1), said flap including an aerodynamic skin (18) that has a bird impact-sensitive frontal area (24), and a rear skin (28) integral on the one hand with a trailing edge (22a) of an upper surface portion (22) of the aerodynamic skin (18) and on the other hand with a trailing edge (20a) of a lower surface portion (20) of this skin (18), said flap also comprising a plurality of ribs (32, 34, 40) spaced out along a leading edge longitudinal direction (X'), characterised in that the flap additionally includes, between two directly consecutive ribs, a single rigid bird trajectory-deflecting wall (42) anchored on the one hand to the aerodynamic skin (18) and on the other hand to the rear skin (28), this wall (42) being capable of deflecting the trajectory of a bird subsequent to it impacting against said impact area (24), and in that in a cross-section taken along any plane orthogonal to the leading edge longitudinal direction (X'), said rigid deflecting wall (42) forms with a geometric chord (26) of the flap an angle ($\alpha 1$) with a value of less than 45°.

2. Leading edge mobile flap (16) according to claim 1, characterised in that in a cross-section taken along any plane orthogonal to the leading edge longitudinal direction (X'), said rigid deflecting wall (42) forms with the geometric chord (26) an angle ($\alpha 1$) of between about 25° and about 35°.

3. Leading edge mobile flap (16) according to claim 1 or claim 2, characterised in that for each group of two directly consecutive ribs (32,34,40) spaced out along the leading edge longitudinal direction (X'), a single rigid bird trajectory-deflecting wall (42) is provided between said two ribs.

4. Leading edge mobile flap (16) according to any one of the previous claims, characterised in that said single rigid wall (42) is anchored on the one hand to said lower surface portion (20) of the aerodynamic skin (18) and on the other hand to an upper part of the rear skin (28), so as to form a box-type structure (44) using a part of the lower surface portion (20) of the aerodynamic skin (18) and of the rear skin (28), and in such a way that said single rigid bird trajectory-deflecting wall (42) is arranged so as to rise in a rearward direction.

5. Leading edge mobile flap (16) according to claim 4, characterised in that a cross-section of the said box-type structure (44), taken along any plane orthogonal to the leading edge longitudinal direction (X'), is substantially triangular in shape.

6. Leading edge mobile flap (16) according to claim 4 or claim 5, characterised in that a single rigid bird trajectory-deflecting wall (42) is provided for each group of two directly consecutive ribs (32, 34, 40) spaced out along the leading edge longitudinal direction (X'), so as to form a plurality of box-type

structures (44) together constituting a beam extending along the leading edge longitudinal direction (X').

7. Leading edge mobile flap (16) according to any one of the previous claims, characterised in that the aerodynamic skin (18) is made using a material that is not very ductile.

8. Main wing (4) of the wing system of an aircraft (1), characterised in that it includes at least one leading edge mobile flap (16) according to any one of the previous claims.